

Strike Out Stroke

in Atrial Fibrillation

Action for Stroke Prevention

Stroke Prevention in Atrial Fibrillation

Quick Facts

- ◆ Stroke is a major public health issue, a condition which on its own represents the third single most common cause of death in industrialised countries¹
- ◆ Atrial fibrillation (AF) is the most common sustained heart rhythm abnormality²
- ◆ AF is a major risk factor for stroke². In AF the upper chambers of the heart (the atria) beat more rapidly than the lower chambers as a result of an irregular electric impulse. This may lead to the formation of a blood clot, which can travel to the brain and cause an ischaemic stroke (stroke caused by blood clots)³
- ◆ Stroke in AF is a growing health epidemic due to Europe's ageing population and improved survival for conditions that predispose people to AF such as heart attack⁴
- ◆ Urgent action is needed to address the dramatically increasing clinical, economic and social burden of stroke in Europe, as well as the damaging effects of stroke on individuals, carers and their families. This can be started by making AF patients a priority for stroke prevention

Stroke: a significant cause of disability and death

What is stroke?

- ◆ There are two main types of stroke: ischaemic and haemorrhagic⁵
- ◆ The most common type of stroke is ischaemic stroke, caused by a clot narrowing or blocking a blood vessel so that the blood cannot reach the brain, causing brain cells to die due to lack of oxygen⁶
- ◆ A haemorrhagic stroke is caused by a bleed from a blood vessel in the brain
- ◆ For many patients, surviving a stroke can be worse than dying from one, as disability and the fear of death are never far from mind. Stroke often results in widespread and long-lasting damage and disability to patients, causing weakness or paralysis and impairing cognitive function⁵

Incidence and prevalence of stroke

- ◆ Stroke is the most common cardiovascular disorder after heart disease, killing an estimated 5.7 million people annually worldwide⁷

- ◆ The prevalence of stroke in Europe has been estimated to be 9.6 million⁷
- ◆ Stroke is a major public health issue in Europe, and is among the leading causes of morbidity and long-term disability in developed countries¹

Atrial fibrillation: a major risk factor for stroke

What is AF and why is it a risk factor for stroke?

- ◆ AF is the most common sustained abnormal heart rhythm in adults²
- ◆ In patients with AF, the upper chambers of the heart (the atria) stop contracting because of rapid and irregular electrical impulses. As a result, blood is not pumped out of the upper chambers completely during heart beats. The chamber walls become more sticky and cause blood particles to become stuck to them. This means that blood may pool and form a clot in the atria. These clots can travel to vessels in the brain blocking them and cause an ischaemic stroke³

Incidence and prevalence of AF

- ◆ Approximately six million individuals in Europe have AF² and this number is predicted to increase 2.5-fold by 2050^{8,9} as a result of:
 - An ageing population⁸
 - Improved survival of patients with conditions which predispose AF (e.g. heart attack)⁴
 - Increased incidence of AF⁹
- ◆ The rate of death due to stroke is nearly two-fold higher in men and three-fold higher in women with AF compared to those without AF¹⁰
- ◆ Importantly, strokes that result from AF are the most severe. They are associated with high mortality and disability rates, and a 50% likelihood of death within one year¹¹

High cost of stroke to individuals and society

- ◆ Stroke produces devastating effects on patients. Worldwide, stroke leaves five million people permanently disabled each year¹²
- ◆ After a stroke, daily living is made extremely difficult and basic functions such as walking and speech are severely affected
- ◆ The onset of stroke is very sudden, meaning that the affected individual and their family are not prepared to deal with the physical, psychological and financial burden¹³
- ◆ The devastating effects of stroke are not only felt by the individual; stroke also places a heavy burden on carers, family members and health and social services
- ◆ Whilst the elderly are most at risk of stroke, the young are not exempt. A study showed that in young adults aged 15–45 years, six years after a stroke only 49% were still alive, not disabled, and had not suffered from recurrent vascular events or undergone major vascular surgery¹⁴
- ◆ Strokes account for 2–3% of the total healthcare expenditure in the EU with a calculated cost of €38 billion in 2006¹⁵

Current challenges for stroke prevention in patients with atrial fibrillation

- ◆ Prevention of AF: adequate recognition and treatment of the factors that cause AF could help to prevent AF and reduce the burden of strokes caused by AF

- ◆ Increased awareness and understanding of AF and AF-related stroke among the general public, patients and carers must be improved to maximise the opportunity for stroke prevention in patients at risk
- ◆ Early diagnosis of AF: the symptoms of AF may be vague or non-specific, so it is often not detected before the first complication, such as a stroke, occurs¹⁶. Thus, many potentially preventable strokes occur every year, leading to thousands of early deaths
- ◆ To date, vitamin K antagonists such as warfarin have been the mainstay of stroke prevention in patients with AF. They reduce stroke risk in patients with AF when appropriately used and properly monitored¹⁷. However, whilst it is an effective drug, it can also have serious side effects such as severe haemorrhage (bleeding)¹⁷. Other drawbacks include a lack of predictability and drug and food interactions so patients are required to make many lifestyle changes and regular follow-up visits¹⁷
- ◆ These difficulties may be the reason that only about one third of AF patients receive appropriate thromboprophylaxis^{18,19}
- ◆ There is a need for improved education among patients and health professionals on the risks and benefits of warfarin and on the optimum management of patients receiving it
- ◆ Several sets of guidelines exist for the management of AF. Their recommendations largely overlap, but the degree to which they are properly implemented varies widely between countries

New developments in stroke prevention for patients with atrial fibrillation

- ◆ New strategies for AF treatment may be helpful in reducing the prevalence of AF, and in turn, AF-related stroke
- ◆ New anticoagulants which will become available in the near future may be easier to use than vitamin K antagonists
- ◆ Several research initiatives underway will give new insights into current management of AF patients and will enable development of better strategies to prevent AF and AF-related strokes

- ◆ A number of registries of AF patients exist, most of which are country specific or focused on North America. Existing registries vary in size; the German Competence Network on Atrial Fibrillation, one of the larger groups, covers over 9,600 patients. A new innovative registry to quantify the global burden of AF was launched in August 2009. The Global Anticoagulant Registry in the Field (GARFIELD) will prospectively follow 50,000 patients newly-diagnosed with AF who are also candidates for anticoagulation therapy to prevent stroke over a six-year period²⁰

Combined, these activities offer a unique opportunity to improve interdisciplinary stroke prevention in AF patients.

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